

Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 931251

Printing date: 03.08.2026

VISOCOLOR ECO Cationic detergents, refill p.

Date of issue: 06.07.2023

Page: 1/13

Version: 2.2.2.11

SECTION 1: Identification of the substance/mixture and of the company

1.1 Product identifier

REF 931251
Product name VISOCOLOR ECO Cationic detergents, refill p.

REACH Registration number(s): see SECTION 3.1/3.2 or
A registration number for the substance(s) does not exist because the annual tonnage does not require registration or the substance or its use is excluded from registration.

1 x 30 mL KD-1

2 x 7 g KD-2

2 x 50 mL KD-3

UFI: 83AV-S3VR-Y206-EDFK

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses

Product for analytical use.

Exposure Scenario Classification according REACH, RIP 3.2 Codes: SU 0-2, PC 21, PROC 15, AC 0

The exposure scenario is integrated into sections 1-16.

Uses advised against

not described

1.3 Details of the supplier of the safety data sheet

Manufactured by:

MACHEREY-NAGEL GmbH & Co. KG
Valenciennner Str. 11, 52355 Düren, Germany
Phone: +49 2421 969 0

E-mail: sds@mn-net.com (msds@mn-net.com)

1.4 Emergency telephone number

Outside Germany (DE): Call your regional Poisons Information Service or call local Life Saving Service.

DE: Gemeinsames Giftinformationszentrum (GGIZ)

99089 Erfurt tel. +49 361 730 730, <<https://www.ggiz-erfurt.de>>

You find our current versions of SDS in Internet:

<<https://www.mn-net.com/SDS>>

SECTION 2: Hazard identification

2.0 Classification of the complete product according to Regulation (EC) 1272/2008



GHS06



GHS07



GHS08

Signal word

DANGER

Hazard identification

H302

H315

H319

H331

H336

H351

H361d

H372

H412

Hazard classes/categories

Acute Tox. 4 oral

Skin Irrit. 2

Eye Irrit. 2

Acute Tox. 3 inh.

resp. irrit. STOT SE 3

Carc. 2

Repr. 2

STOT RE 1

Aquatic Chronic 3

2.1 Classification of the substance or mixture according to Regulation (EC) 1272/2008

7 g KD-2

Do not need labelling as hazardous



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Signal word

-

No hazard class

50 mL KD-3



GHS06



GHS07



GHS08

Signal word

DANGER

Hazard identification

Hazard classes/categories

H302	Acute Tox. 4 oral
H315	Skin Irrit. 2
H319	Eye Irrit. 2
H331	Acute Tox. 3 inh.
H336	resp. irrit. STOT SE 3
H351	Carc. 2
H361d	Repr. 2
H372	STOT RE 1
H412	Aquatic Chronic 3

30 mL KD-1

Do not need labelling as hazardous

Signal word

-

No hazard class

List of H phrases: see section 16.2

2.2 Label elements according regulation (EC) 1272/2008

According **CLP directive** inner packages must be only labelled with GHS symbol(s) and product identifier(s) (EU 1272/2008 Annex I - 1.5.1.2). Harmful chemicals/mixtures with signal word: **WARNING** must not be labelled with H and P phrases **until 125 mL** (EU 1272/2008 Annex I - 1.5.2).

7 g KD-2

Do not need labelling as hazardous

Signal word: -

50 mL KD-3



GHS06



GHS08

Signal word: DANGER

H331, H351, H361d, H372

Toxic if inhaled. Suspected of causing cancer. Suspected of damaging the unborn child. Causes damage to organs through prolonged or repeated exposure.

P201, P202, P260sh, P264, P270, P271, P280sh, P311, P405, P501

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/vapours. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/eye protection. Call a POISON CENTER/doctor. Store locked up. Dispose of contents/container to regulated waste treatment.

30 mL KD-1

Do not need labelling as hazardous

Signal word: -

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Label elements of the complete product



GHS06



GHS08

Signal word: DANGER

H331, H351, H361d, H372

Toxic if inhaled. Suspected of causing cancer. Suspected of damaging the unborn child. Causes damage to organs through prolonged or repeated exposure.

P201, P202, P260sh, P264, P270, P271, P280sh, P311, P405, P501

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/vapours. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/eye protection. Call a POISON CENTER/doctor. Store locked up. Dispose of contents/container to regulated waste treatment.

2.3 Other hazards

Possible hazards from physicochemical properties

In the case of pH values are less than 5 or higher than 9 then it is irritant.

Information pertaining to particular risks to human and possible symptoms

Cause severe after inhalation of vapours, impairments of health or can lead to death even when only ingested in small quantities. Cause after oral intake, impairments of health when ingested in small quantities. Suspected of causing cancer. Suspected of damaging the unborn child.

Information pertaining to particular risks to the environment

PBT: not applicable

vPvB: not applicable

Possible endocrine disrupting effects

no data available

SECTION 3: Composition / information on ingredients

3.1 Substances or 3.2 Mixtures

7 g KD-2

Substance name: *bromophenol blue (pH indicator)*
CAS No.: 115-39-9

Substance rating: No criteria for classification or naming of chemical not required.
Formula: $C_{19}H_{10}Br_4O_5S$
Pseudonym (de): 3,3',5,5'-Tetrabromphenolsulfonphthalein
EC No.: 204-086-2
Concentration: 0,1 - <1 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

Substance name: *sodium chloride*
CAS No.: 7647-14-5

Substance rating: No criteria for classification or naming of chemical not required.
Formula: NaCl
Pseudonym (de): Kochsalz
REACH Reg. No.: exempt, Annex V
EC No.: 231-598-3
Concentration: 80 - <100 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

50 mL KD-3



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Substance name: *chloroform*
CAS No.: 67-66-3

Substance rating: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2, H331, Acute Tox. 3 inh., H336, resp. irrit. STOT SE 3, H351, Carc. 2, H361d, Repr. 2, H372, STOT RE 1, H412, Aquatic Chronic 3
Formula: CHCl₃
Pseudonym (de): Trichlormethan, Kohlenstofftrichlorid
REACH Reg. No.: 01-2119486657-20-xxxx
EC No.: 200-663-8 Indice No.: 602-006-00-4
Concentration: 95 - <100 %
acc. CLP (GHS): H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2, H331, Acute Tox. 3 inh., H336, resp. irrit. STOT SE 3, H351, Carc. 2, H361d, Repr. 2, H372, STOT RE 1, H412, Aquatic Chronic 3

30 mL KD-1

Substance name: *citrate buffer solution*
CAS No.: -

Substance rating: No criteria for classification or naming of chemical not required.
Concentration: 1 - <10 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

3.3 Remarks

When not listed, mixtures are added with water [CAS No. 7732-18-5] to 100%.

List of H and P phrases: see section 16.2.

SECTION 4: First aid measures

4.1 Description of first aid measures

Place insured person out of danger zone to fresh air immediately. Ensure quiet, warmth, and provide resuscitation if necessary. If necessary contact medical advice. Take to a doctor, in a raised position if there are breathing difficulties.

- 4.1.1 After SKIN Contact**
Remove contaminated clothing. Rinse the affected skin or mucous membrane thoroughly under running water. (If possible) use soap.
- 4.1.2 After EYE Contact**
After contact with the eyes rinse thoroughly under running water with the eyelid wide open with eye washing bottle, eye douche or running water (protect intact eye).
- 4.1.3 After INHALATION of vapours**
After inhalation of foam or vapour fresh air should be inhaled. Keep airways free. Administer a Dexamethasone spray as soon as possible. Ensure quiet, warmth, and provide resuscitation if necessary. In the event of respiratory distress ensure that the patient inhales oxygen. Secure the breathing, heart and circulatory function. ---
- 4.1.4 After ORAL Intake**
After oral intake lots of water should be drunk after it has been ingested.

4.2 Most important symptoms and effects, both acute and delayed

Damages organs.

CMR Effekte: Suspected of causing cancer. Suspected of damaging the unborn child.

4.3 Indication of any immediate medical attention and special treatment needed

In the event of RESPIRATORY DISTRESS ensure that the patient inhales oxygen. Inform patient respectively further measures and the possibility of long-term damages. ---

SECTION 5: Firefighting measures

5.1 Extinguishing media

5.1.1 Suitable extinguishing media

Fire extinguishers appropriate to the fire classification, and, if applicable, a fire blanket must be available in a prominent location in the work area. All extinguishers like FOAM, WATER SPRAY, DRY POWDER, CARBON DIOXIDE can be used.



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5.1.2 Unsuitable extinguishing media
no data available

5.2 Special hazards arising from the substance or mixture
Formation of hazardous and caustic vapour-air mixtures possible.

5.3 Advice for firefighters
No, for listed product. Product package burns like paper or plastic.

5.4 Additional information
no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Do not breathe vapours. Wear suitable protective gloves (see 8.2.2). Regular staff training is necessary, indicating hazards and precautions on the basis of operating instructions. Restrictions on activity must be observed.

6.2 Environmental precautions
PBT: not applicable
vPvB: not applicable

6.3 Methods and material for containment and cleaning up
Bind any escaping liquid with inert absorbent. And dispose in accordance to local regulations for the disposal of hazardous chemicals. Clean any contaminated equipment and floors with plenty of water. Collect small amounts of leaked liquid and flush with water into drains. Not for organic solvents (see section 13).

6.4 Reference to other sections
no data available

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Handling in accordance with the test instruction, that comes with the product. Use only in well-ventilated working areas.

7.2 Conditions for safe storage, including any incompatibilities
Safe storage is guaranteed in the original packaging from MACHEREY-NAGEL. Products which are also classified as toxic must be kept under lock and key. Storage class (German chemical industry): see chapter 12.1
Storage class (VCI): 12
Water hazard class (DE): 3

7.2.1 Requirements for stock rooms and containers
Keep original product packages tightly closed during handling and storage, and store in a well-ventilated place at max. 25 °C, away or preferably separate from substances with which a hazardous reaction could take place, so that they are not immediately accessible to outside parties. Use inbreakable container for transport of glass bottles.

7.3 Specific end use(s)
Product for analytical use.

SECTION 8: Exposure controls /personal protection

8.1 Control parameters

7 g KD-2

Chemical: *sodium chloride*

CAS No.: 7647-14-5

Chemical: *bromophenol blue (pH indicator)*

CAS No.: 115-39-9

30 mL KD-1

Chemical: *citrate buffer solution*

CAS No.: -

50 mL KD-3

Chemical: *chloroform*

CAS No.: 67-66-3

DNEL: [derm] 0.94 mg/kg bw/day; [inh] 2.5 mg/m³

DNEL = Derived No-Effect Level (for workers)

PNEC (fresh water): 0.146 mg/L

PNEC = Predicted No Effect Concentration



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EU value: 0.5 ppm / 2.5 mg/m³
 TRGS 900 (DE): 0.5 mL/m³ / 2.5 mg/m³
 E/e respirable
 Short-term exposure factor: 2 (II), H, X, Y
 skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
 SUVA(CH) MAK value: 0.5 ppm / 2.5 mg/m³
 NIOSH: Ca ST 2 ppm / 9.78 60 min mg/m³
 [TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period
 OSHA: 50 ppm / 240 mg/m³

8.2 Exposure controls

Good ventilation and extraction system in the room, floor resistant to chemicals with floor drainage and washing facilities. The highest level of cleanliness must be maintained at the workplace.

8.2.1 Respiratory protection

Use for open access of these substances for example a protection filter, class A/AX. No additional recommendations.

8.2.2 Skin protection / Hand protection

Yes, gloves according EN 374 (permeation time >30 min - level 2), consist of PVC, natural latex, Neopren, or Nitril, for chlorinated carbons consist of viton (f.ex. from Ansell or KCL). Use for short times chemical resistant latex gloves with code EN 374-3 level 1.

8.2.3 Eye / Face Protection

Yes, safety glasses according EN 166 with integrated side shields or wrap-around protection.

8.2.4 Skin protection

Recommended to avoid contamination with these hazards.

8.2.5 Personal hygiene

Eating, drinking, smoking, taking snuff and storage of food in work areas and at outdoor workplaces is prohibited. Avoid contact with the skin, eyes and clothing. Rinse any clothing on which the substance has been spilled, and soak it in water. Wash hands thoroughly with soap and water when stopping work and before eating, and then apply protective skin cream.

8.2.6 Thermal hazards

no data available

8.3 Limitation and monitoring of environmental exposure

Do not release product into environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

7 g KD-2

a) State of aggregation:	powder (solid)
b) Colour:	yellow
c) Odor:	odorless
d) Melting point:	no data available
e) Boiling point:	no data available
f) Flammability:	no data available
g) Explosive limits (lower / upper):	no data available
h) Flash point:	no data available
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	5-7
l) Kinematic viscosity:	no data available
m) Solubility in water:	0-20 %
n) Dispersion coefficient (K _{ow}):	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	no data available
q) Relative vapour density (air=1):	no data available
r) Particle size:	no data available

30 mL KD-1

a) State of aggregation:	liquid
b) Colour:	colourless
c) Odor:	odorless
d) Melting point:	no data available
e) Boiling point:	no data available
f) Flammability:	no data available



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g) Explosive limits (lower / upper):	no data available
h) Flash point:	no data available
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	1
l) Kinematic viscosity:	no data available
m) Solubility in water:	0-100 %
n) Dispersion coefficient (K _{o/w}):	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	1,0 g/cm ³
q) Relative vapour density (air=1):	no data available
r) Particle size:	no data available

50 mL KD-3

a) State of aggregation:	liquid
b) Colour:	colourless
c) Odor:	like chloroform
d) Melting point:	-63.5 °C
e) Boiling point:	61.7 °C
f) Flammability:	no data available
g) Explosive limits (lower / upper):	no data available
h) Flash point:	no data available
i) Flashing temperature:	982 °C
j) Decomposition temperature:	no data available
k) pH value:	no data available
l) Kinematic viscosity:	no data available
m) Solubility in water:	< 1 %
n) Dispersion coefficient (K _{o/w}):	no data available
o) Vapour pressure (20°C):	211 hPa
p) Specific gravity:	1,48 g/cm ³
q) Relative vapour density (air=1):	4,12
r) Particle size:	no data available

9.2 Other information

9.2.1 Information on physical hazard classes

no data available

9.2.2 Other safety-related parameters

No data is available for the other parameters for the mixtures, since no registration and no chemical safety report is required.

□ □

SECTION 10: Stability and reactivity

10.1 Reactivity

no further data available.

10.2 Chemical stability

no known instability.

10.3 Possibility of hazardous reactions

No further data available.

10.4 Conditions to avoid

No more required.

10.5 Incompatible materials

no additional data available



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10.6 Hazardous decomposition products

In the original package all parts/all reagents are safety and separated stored. Decompositions are not observed during the expiration period under recommended conditions.

SECTION 11: Toxicological information

11.1 Information on the hazard classes according regulation (EC) 1272/2008

Following information is valid for pure substances. Quantitative data on the toxicity of this product are not available.

7 g KD-2

Chemical: *sodium chloride*
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-31387
LD50 orl rat : 3000 mg/kg

CAS No.: 7647-14-5

Chemical: *bromophenol blue (pH indicator)*
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-02746

CAS No.: 115-39-9

30 mL KD-1

Chemical: *citrate buffer solution*
TSCA Inventory: all listed
Korea Exist.Chem.Inventory: listed

CAS No.: -

50 mL KD-3

Chemical: *chloroform*
TSCA Inventory: listed
ACGIH: 10 ppm
Exposure Routes: inhalation, skin absorption, ingestion, skin and/or eye contact
Target Organs: Liver, kidneys, heart, eyes, skin, central nervous system
Symptoms: irritation eyes, skin; dizziness, mental dullness, nausea, confusion; headache, lassitude (weakness, exhaustion); anesthesia; enlarged liver; [potent
Australia NICNAS: not listed
Japan CSCL/PRTR: PCA Yes, PRTR: ≥1,0% class I, Japan PDSCCL: Deleterious Substance
Japan ISHL: listed ≥1,0%/≥0,1%, Article 57-1+2 (Labelling&SDS required)
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-34076, Toxic 97-1-281
LD50 orl rat : 908 mg/kg
LC_{Low} ihl hmn : 25 mg/L
LC_{Low} orl hmn : 140 mg/kg
LC_{Low} orl rbt : 500 mg/kg
LC50 ihl rat : 9,17 mg/L/6H
Acute Effects: Cause severe after inhalation of vapours, impairments of health or can lead to death even when only ingested in small quantities. Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.
Chronic Effects:
Carcinogenic Effects: Suspected of causing cancer. Suspected of damaging the unborn child.
EU carcinogen: carc. 2, repr. 2
TRGS 905 (DE): K 1B, M 2, R D 2

CAS No.: 67-66-3

California Proposition 65 List: listed: cancer, developmental

11.2 Other hazards

Possible endocrine disrupting effects

no data available

Other information

no additional data available

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SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

7 g KD-2

Substance name: *sodium chloride*

Water hazard class (DE): 1

Storage class (VCI): 12-13

CAS-Nr.: 7647-14-5

Substance name: *bromophenol blue (pH indicator)*

Water hazard class (DE): 2

Storage class (VCI): 12-13

CAS-Nr.: 115-39-9

30 mL KD-1

Substance name: *citrate buffer solution*

Water hazard class (DE): 0

Storage class (VCI): 12

CAS-Nr.: -

50 mL KD-3

Substance name: *chloroform*

Harmful to aquatic life with long lasting effects. Do not release into the environment.

Environmentally hazardous substances/mixtures do not have to be labeled with P-phrases up to 125 mL (EU 1272/2008 Annex I Paragraph 1.5.2).

PNEC (fresh water): 0.146 mg/L

PNEC = Predicted No Effect Concentration = concentration at which no effect on the environment is expected

LC50 fish/96h: 18 mg/L

EC50 daphnia/48h: 6.3 21d NOEC mg/L

Water hazard class (DE): 3 WGK No.: 0054

Storage class (VCI): 12

CAS-Nr.: 67-66-3

12.2 Persistence and degradability

12.3 Bioaccumulative potential

Substance name: *bromophenol blue (pH indicator)*

Dispersion coefficient (K_{ow}): 6,77

CAS-Nr.: 115-39-9

50 mL KD-3

Substance name: *chloroform*

Dispersion coefficient (K_{ow}): 1,97

CAS-Nr.: 67-66-3

12.4 Mobility in soil

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

no data available

12.7 Other adverse effects

no additional data available

SECTION 13: Disposal considerations

Please observe local regulations for collection and disposal of hazardous waste and contact waste disposal company, where you will obtain information on laboratory waste disposal (waste code number 16 05 06). Or collect in solvent waste (waste code number 07 07 04). Close container tightly.

13.1 Waste treatment methods

Normally it is possible to empty small amounts (diluted!) into drains.
Dispose of contents/container to regulated waste treatment.

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SECTION 14: Transport information

14.1. UN number: 3316
14.2. UN proper shipping name: Chemical Kit
14.3. Class: 9
14.4. Packing group: II
Road transport ADR
 Classification code: M11 Tunnel restriction code: E
 Limited Quantity: acc. ADR 3.3.1/251: see LQ in Alternative declaration for transportation
Air transport IATA DGR
 Limited Quantity: PAX: 960 max. quantity PAX: 10 KG
 CAO: 960 max. quantity CAO: 10 KG
Maritime transport IMDG
 EmS: F-A, S-P Staukategorie: A

Or use **Alternative declaration for transportation:**

14.1 UN number: 1888
14.2 UN proper shipping name: Chloroform
14.3 Class: 6.1
14.4 Packing group: III
Road transport ADR
 Classification code: T1
 Limited Quantity: 5 L Tunnel restriction code: E
 Excepted Quantity: E 1
Air transport IATA DGR
 Limited Quantity: PAX: 680 max. quantity PAX: 60 L
 CAO: 680 max. quantity CAO: 220 L
 Excepted Quantity: E 1
Maritime transport IMDG
 EmS: F-A, S-A Staukategorie: A

14.5 Environmental hazards

none, contains only small quantities of hazardous substances, contains only small amounts of these substances

14.6 Special precautions for user

not necessary

14.7 Carriage in bulk by sea in accordance with IMO instruments

Not applicable.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Chemicals Prohibition Ordinance - (DE: ChemVerbotsV), aktualisiert Jan 2017
 Dangerous Substances Protection Act (DE: Chemikaliengesetz - ChemG), Aug 2013, Stand: Okt 2020
 Ordinance on protection against dangerous substances (E: Gefahrstoffverordnung - GefStoffV), Nov 2010, Stand: Mrz 2017
 TRGS 201, Classification and labeling of activities involving hazardous substances, Feb 2017
 TRGS 220, National aspects when preparing safety data sheets, Jan 2017
 TRGS 400, Risk assessment for activities involving hazardous substances, Jul 2017
 BekGS 408, Application of the GefStoffV and the TRGS with the entry into force of the CLP regulation, December 2009, status: Jan 2012
 TRGS 500, Protective measures, Mai 2008
 TRGS 510, Storage of hazardous substances in portable containers from March 2013, status: Oct 2015
 Chapter 4, Measures when storing hazardous substances up to 50 kg (small quantity regulation)
 Wasserhaushaltsgesetz - WHG, Section 3 Handling substances hazardous to water, Jul 2009, status: Aug 2016
 TRGS 561, Activities involving carcinogenic metals and their compounds, Oct 2017
 MN leaflet/instructions for use, also at www.mn-net.com
 If necessary, observe other country-specific regulations.

15.2 Chemical safety assessment

no data available



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Safety Data Sheet

according to Regulations REACH 1907/2006/EC

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VISOCOLOR ECO Cationic detergents, refill p.

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SECTION 16: Other information

16.1 Changes compared to the last version

Between versions 2.2.2.11 and 2.2.2.2 following changes were applied: - 9 substance data corrected

16.2 List of H and P phrases

16.2.1 List of relevant H phrases

H	Between versions 2.2.2.11 and 2.2.2.2 following changes were applied: - 9 substance data corrected
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

16.2.2 List of relevant P phrases

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260sh	Do not breathe dust/vapours.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280sh	Wear protective gloves/eye protection.
P311	Call a POISON CENTER/doctor.
P405	Store locked up.
P501	Dispose of contents/container to regulated waste treatment.

16.3 Recommended restriction on use

Only for professional user.

Look about employee restrictions for young people (f. ex. 94/33/EC or DE § 22 JArbSchG)!

Look about employee restrictions for pregnant women and nursing women (f.ex. 92/85/EEC or for DE §§ 11-13 MuSchG 2017)!

An individual package of this product or test kit has a moderate hazardous potential.

16.4 Sources of key data

KÜHN, BIRETT, Leaflets on hazardous materials, 2021

Directive 1999/92/EG Minimum requirements to improve the safety and health protection of workers at risk from potentially explosive atmospheres

Directive 2004/37/EC on the protection of workers from the risk of carcinogens or mutagens at workSUVA .CH, limit values in the air at work 2009, revised on 01/2009

Regulation 790/2009/EU, adaptation of Regulation 1272/2008/EU to technical and scientific progress (1st ATP)

Regulation 453/2010/EU, adaptation of the REACH regulation 1907/2006/EG

Regulation 487/2013/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (4th ATP)

Regulation 1221/2015/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (7th ATP)

Regulation 776/2017/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (10th ATP)

TRGS 905, German rules of technology for carcinogenic and mutagenic substances, as of March 18, 2016

Regulation 669/2018/EU, adaptation of Regulation 1272/2008/EC to technical and scientific progressText (11th ATP)

Regulation 1480/2018/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (13th ATP)

Regulation 521/2019/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (12th ATP)

TRGS 900, German rules of technology on limit values in the air at work, as of 03/2019

Regulation 217/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (14th ATP)

Regulation 878/2020/EU, adaptation of Annex II of the REACH regulation 1907/2006/EG

Regulation 1182/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (15th ATP)

Regulation 643/2021/EU, adaptation of Annex VI, Part 1, of Regulation 1272/2008/EC to technical and scientific progress (16th ATP)

Regulation 849/2021/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (17th ATP)

Regulation 692/2022/EU, adaptation of Annex VI, Part 1, of Regulation 1272/2008/EC to technical and scientific progress (18th ATP)

revisions/updates

Reason for revision: 2014-02 Corrected structure of the sections according to Regulation 453/2010/EU, if necessary

2014-04 adjustment according Regulation 487/2013/EU

2016-03 adjustment according Regulation 1221/2015/EU

2017-11 adjustment according the ECHA registration dossier

2022-11 adjustment according Regulation 878/2020/EU



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16.5 Further information

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16.6 Legend / Abbreviations

acc:	according
ADR:	Convention concerning the International Carriage of Dangerous Goods by Road
Act:	acute
BAT:	biological workplace tolerance value
CAO:	Cargo Aircraft Only
Carc:	carcinogen
CAS:	Chemical Abstracts Service
CLP:	Classification, Labelling and Packaging regulation
CMR:	carcinogen, mutagen, reproduction toxic
Corr:	corrosive
COD:	chemical oxygen demand
CSCL:	Chemical Substance Control Law (Jp)
Dam:	damage
DNEL:	Derived No-Effect Level (for workers)
derm:	dermal
dog:	dog
EC10:	Concentration causing a toxic effect in 10% of the test organisms
EC:	European Community
EC-Nr:	Substance number of the EC substance inventory
EmS:	Guide to accident management measures on ships
EU:	European Union
fish:	fish (not specified)
GHS:	Global Harmonized System of Classification and Labeling of Chemicals
gpg:	guinea pig
ICAO:	International Civil Aviation Organization
ihl:	inhaled
IMDG:	International Maritime Dangerous Goods Code
intrav:	intravenous
ipt:	intraperitoneal
ISHL:	Industrial Safety and Health Law (Jp)
LC50:	lethal concentration 50%
LD50:	lethal dose 50%
leuciscus idus:	fish, ide, orfe
MAK:	maximum workplace concentration
Met:	Metall
mus:	mouse
Muta:	mutagen
NIOSH:	National Institute for Occupational Safety and Health (US)
NRD:	Non-rapidly degradable
onchorhynchus mykiss:	fish, rainbow trout
orl:	oral
OSHA:	Occupational Safety and Health Administration
PAX:	transport on passenger planes allowed
PBT:	persistent, bioaccumulating, toxic substance
pH:	pH value
pimephales promelas:	fish, fathead minnow
PNEC:	Predicted No Effect Concentration
PROC 15:	Process category 'for laboratory use'
PRTR:	Law for PRTR and Promotion of Chemical Management (Jp)
PVC:	polyvinyl chloride
quail:	bird, quail
rat:	rat
rbt:	rabbit
RD:	rapidly degradable
RE:	repeated
REACH:	Registration, Evaluation, Authorisation and Restriction of Chemicals
REF:	item number, reference number
Reg.No.:	rRegistration number



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Repr: harmful to reproduction
 Resp: respiratory
 RIP: REACH Implementations Projects
 scu: sub cutan
 SDS: safety data sheet
 Sens: sensitisation
 STEL: short term exposure limit
 STOT: Specific Target Organ Toxicity
 SVHC: Substance of Very High Concern
 t/a: tons per year
 TCCA: Toxic Chemicals Control Act (S. Korea)
 Tox: toxic
 TSCA: The Toxic Substances Control Act (US)
 TWA: time weighted average
 TRGS: technical regulations (DE)
 vPvB: very persistent, very bioaccumulating substance

16.7 Training advice

Regular safety training. Multiple safety training of staffs about danger and protection by using hazards in working area. Additionally training and introduction of staffs for using these products.